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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,925	02/22/2002	Charles Abraham	GLBL/015P3	2180

7590

06/24/2004

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EXAMINER

HA, DAC V

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,925

Applicant(s)

ABRAHAM, CHARLES

Examiner

Dac V. Ha

Art Unit

2634

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 16 and 17 is/are allowed.
6) ☒ Claim(s) 1-14 is/are rejected.
7) ☒ Claim(s) 15 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al. (US 6,151,353) (hereinafter Harrison) in view of Nussbaum et al. (US 5,952,947) (hereinafter Nussbaum).

Regarding claim 1, Harrison teaches the following claimed subject matter.

"a convolution ... correlations" (Figure 4, element 23).

Harrison doesn't teach "a decimation circuit ... Q signals". Nussbaum discloses the claimed subject matter "a decimation circuit ... GPS signals" and "a quantizer ... signals" as the process of sampling, quantizing and decimating can collectively accomplished as shown in Figure 2, element 20; Col. 3, line 3 to Col. 4, line 5. Quantization and decimation are preferred process for limiting the quantity of reliable samples, thus, it would have been obvious to one skilled in the art to incorporate the teaching in Nussbaum into Harrison for improving the accuracy and speed of the signal processing.

Regarding claim 7, see claim 1 above.

Regarding claim 2, Harrison further teaches the claimed subject matter "wherein ... two bits" in Col. 11, lines 30-34.

Regarding claim 8, see claim 2 above.

Regarding claim 3, the claimed subject matter "wherein ... thresholds" is inherent from the digitizing (A/D) process point of view.

Regarding claim 9, see claim 3 above.

Regarding claims 4-6, these claimed subject matter are design specific and would have been obvious to one skilled in the art as optional.

Regarding claims 10-12, see claims 4-6 above, respectively.

Regarding claim 13, Harrison teaches the claimed subject matter "a decimation circuit ... GPS signals" (Figures 3-5, element 21; Col. 10, lines 6-12); "a convolution ... correlations" (Figure 4, element 23). Harrison also shows that less complex of the circuitry is required if lower "bit precision" is utilized (Col. 11, lines 40-41). Harrison does not teach the detail of the method for reducing the complexity of the circuit by presenting the signal with, i.e. less bits since it is not the intention of Harrison disclosure, however, the claimed subject matter "a divider ... summing the magnitude values" would have been obvious to one skilled in the art. That is, there is trade off in representing the signals using higher number of bit and the complexity of the circuit.

Regarding claim 14, see claim 13 above.

Allowable Subject Matter

3. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 16-17 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', is written over a horizontal line.

Dac V. Ha
Examiner
Art Unit 2634